

[Designation of Document] Abstract

[Abstract]

[Object] To provide a voltage-controlled oscillator having a small control-voltage width by correcting frequency temperature characteristic of a SAW resonator X, a clock converter including the voltage-controlled oscillator, and an electronic device using the clock converter.

[Means for Resolution] A voltage-controlled oscillator 1A includes a voltage-controlled phase-shift circuit 3, outputting an signal with the shift deviated from an input signal by a specified amount with an external control voltage  $V_t$ , a SAW resonator X, a buffer 2a,, inputting a resonance signal having a specified resonance frequency from the SAW resonator X, outputting a clock signal with a desired frequency, and outputting a positive-feedback-oscillation-loop output signal, wherein the voltage-controlled phase-shift circuit 3, the SAW resonator X, and the buffer 2a construct a positive-feedback oscillation loop, in which the frequency temperature characteristic of the SAW resonator X is rotated by a specified amount using the temperature characteristic of the propagation delay time of the buffer 2a to correct the frequency temperature characteristic of the SAW resonator X.

[Selected Drawing] Fig. 1